Minutes of the 117th Energy Calibration Meeting held on 24 January 1997

The first part of the meeting concerned the 1996 analysis. The discussion then turned to the plans for finalising the 1993–1995 analysis.

1 1996 Dispersion Effects

Alfons Weber presented the checks of the effect of dispersion on the 1996 data. His calculations as presented assumed a beam energy spread of only 50 MeV, which is too small for the high energy data by a factor of $\gtrsim 2$. The errors quoted should therefore be scaled up by a factor of 4 to account for the energy spread squared in the calculation of the energy shift.

In the absence of a dispersion measurement in 1996, the calculated dispersions are used (Jorg Wenninger). The shifts and rms expected at each IP (before multiplying by 4) are:

	δ	rms
IP2	0.15	1.3
IP4	0.02	0.4
IP6	0.4	2.2
IP8	0.02	0.3

Errors from the best setting and emittances are estimated to be around 0.5 MeV. It might therefore be sensible to increase the quoted error from 1 to 2 MeV for the dispersion effect - this will have a negligible effect on the final error for 1996.

2 Further comment on the LEP temperature experiment

Bernd Dehning pointed out that there is a large spike in the B field at the beginning of the temperature experiment in the LEP tunnel without beam at the end of last year. This might be due to the asynchronous switching on of the quadrupoles. It would have a similar effect to a bending modulation and could explain why the magnetic field did not increase as much as expected during the initial heating phase of the experiment.

3 1993–1995 Issues

To be written up separately ...

4 AOB

Jorg Wenninger has written up the horizontal orbit corrector study as an SL note. This can be found on the energy calibration web pages.

5 Next meeting

The next meeting is on Friday 31 January at 14:00 in the pavillon.

Pippa Wells, 30 January 1997.